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Aspects of Informed Consent and Role of
Medical Students

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(the retitled, redesigned *Journal* beginning in January 1989)

Academic Medicine will contain both peer-reviewed and non-peer-reviewed articles. Non-peer-reviewed articles will be accepted in three categories: major articles and essays, short opinion pieces, and letters to the editor.

Complete instructions for submitting articles will be published in the October 1988 and January 1989 issues. The following summary of these instructions gives general information for authors submitting articles for the peer-reviewed section of *Academic Medicine*.

Categories of peer-reviewed articles. *Academic Medicine* will have three types of peer-reviewed articles: major articles, short papers, and communication briefs.

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3. A communication brief should be 250 words in length (one double-spaced page) and have no reference list, figure, or table (one or two references may be cited in full in the text).

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Papers are reviewed by specialist reviewers, the editor, and occasionally by consulting editors or members of the Editorial Board. All manuscripts will be edited critically by the editorial staff, and the authors must proofread and approve galley proofs.

All authors of accepted papers must assign copyright of the article to the Association of American Medical Colleges and must sign a statement of authorship.

Complete instructions for authors are available from the editorial office.

To submit a manuscript, send the following:

1. Two copies of the manuscript
2. A cover letter (signed by the first author or designated corresponding author) stating that the paper has not been previously published and is not under consideration by another journal and noting any inclusion of abstracts or portions of the paper in conference proceedings or similar monographs.

Format and references. Prepare the following materials:

1. Title page. Give the title (limited to two lines written in caption style, that is, it should not be a sentence); the byline (the authors' names; academic degrees; licensure titles); and the authors' identification (in sentence format, giving each author's surname, position held, department or division, institution, and city and state).
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3. Text. It may be written in first or third person.
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5. References. Citations should be numbered in the order in which they appear and be identified by superscripts. Citations should be prepared according to the *Chicago Manual of Style* (13th edition), with journal citations prepared in the humanities style (Style A). See sample entries below.

Sample References

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A National Survey Concerning the Ethical Aspects Of Informed Consent and Role of Medical Students

*Daniel L. Cohen, M. D., Laurence B. McCullough, Ph. D.,
R. W. I. Kessel, Ph. D., Aristide Y. Apostolides, Ph. D.,
Kelly J. Heiderich, and Errol R. Alden, M. D.*

Abstract—The authors surveyed a national random sample of medical students (10 percent of the graduating class of 1985) to identify the ways in which the students obtained informed consent from their patients and to learn the students' views of certain issues concerning informed consent. The results showed that the students introduced themselves to patients using methods that the authors grouped by levels of forthrightness. Those students who introduced themselves as medical students differed in their views on selected informed consent issues from students who introduced themselves as physicians. In general, all the students were less forthright about their status when given the opportunity to perform invasive procedures. Student gender, type of patient, and type of hospital were statistically associated with the students' behavior, according to bivariate analysis. After multivariate regression analysis, however, only the actions of the students' role models (residents and attending physicians) remained significantly associated with the students' behavior. The authors conclude that because some aspects of student behavior are at odds with the requirements of informed consent, medical educators must scrutinize the ethical dimensions of the policies they establish.

Third-year medical students begin their practical clinical training in teaching hospitals, at the bedside, with real patients. In this setting they are faced with the

ethical issue of administering medical services before they are licensed to do so, even though they are supervised by licensed members of their faculty and the house staff.

Dr. Cohen is associate professor, Dr. Alden is professor, and Ms. Heiderich is research assistant, Department of Pediatrics, and Dr. Apostolides is associate professor, Department of Preventive Medicine and Biometrics, all at the Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine, Bethesda, Maryland. Dr. McCullough is professor, Department of Community and Family Medicine and the Kennedy Institute of Ethics, Georgetown University, Washington, D.C. Dr. Kessel, now retired, formerly was dean of the Graduate School, University of Maryland, Baltimore.

The provision of medical care to patients in teaching hospitals is governed by the guidelines issued by the Joint Commission on Accreditation of Hospitals (1). Two key items in these guidelines are the right of patients to be informed about the status of their health care providers and their right to give or withhold consent for the medical care proposed for them. The report of a federal commission on medi-

cal malpractice also supports these guidelines (2).

The authors of the present study maintain that implementation of the informed consent guidelines as they pertain to medical students can most reasonably be interpreted to mean that the students disclose their status to all patients for whom they provide any form of care and that they obtain patient consent for this care. The present study describes self-reported behavior regarding adherence to the guidelines of informed consent and relates this reported behavior to selected student attitudes and beliefs about the appropriateness of the guidelines and about who is responsible for their implementation.

Methods

The target population for this survey consisted of all third-year medical students enrolled in any of the fully accredited four-year allopathic medical schools in the continental United States in 1984. A computerized list of these students maintained by the Association of American Medical College was used to select a stratified random sample of 2,500 students, subsequently reduced to 2,411 because three medical schools did not participate. The original sample represented one in six of all the 1985 graduates, and the probability of selection of one in six applied equally to students at each of the medical schools.

After pilot testing the survey questionnaire was mailed in May 1984 to the students just before the end of their first clinical year of study.

The questionnaire (available for review upon request from the first author) consisted of a series of statements or questions designed to describe behavior relative to student interaction with patients and to quantitate students' perceptions of

obtaining informed consent for their involvement in the care of patients. Specifically, the questionnaire attempted to define what steps had been taken on behalf of students and what steps the students individually had taken with respect to clarifying their roles in the assessment and care of patients, with particular focus on student involvement in the performance of invasive procedures. Finally, the questionnaire contained a series of statements designed to ascertain the students' personal perspectives on the rights of patients in teaching hospitals.

Questionnaires were returned by 1,596 students (approximately 10 percent of the class of 1985), for a response rate of 66.2 percent. Upon return of the completed questionnaires, all identifying information was coded to preserve the confidentiality of the medical students and the schools. Aggregate results from the student survey and related variables obtained from parallel surveys of medical school deans and clinical department chairpersons, previously reported (3), were analyzed (4). Hypothesis testing was carried out using, as appropriate, either the Mantel-Haenzel test or the chi-square test for trend (5). Multivariate analysis used the stepwise linear regression model (6).

Results

Table 1 summarizes the students' reports of the methods they chose to introduce themselves to patients during their initial clinical clerkship in internal medicine. A majority of the students (61 percent), referred to in this study as group B, introduced themselves as medical students without further elaboration, assuming that the patients understood that they were not yet physicians. Another group of students, comprising about 5 percent of the respondents, also introduced them-

TABLE 1
Number and Percentage of Third-Year Students in U.S. Medical Schools Who Introduced Themselves to Patients in Each of Four Ways During Their Internal Medicine Clerkships, 1985*

Groups	Number	Percent
Group A—introduced self as medical student, explained status	86	5.5
Group B—introduced self as medical student, did not explain status	971	60.8
Group C—introduced self as "doctor"	97	6.1
Other—used no single method consistently	442	27.7
Total	1,596	100.0

* The results are based upon responses of 1,596 medical students from a random sample of 2,411 students attending 120 allopathic U.S. medical schools.

selves as medical students but went further and explained to the patients that they were not yet physicians. This group is referred to as group A. On the other hand, some students, about 6 percent of the respondents, introduced themselves to the patients as "doctor" or "Dr. . . ." without mention of their educational status. This group is referred to as group C. Finally, a substantial proportion of the students (28 percent) stated that they did not consistently use any one method of introduction but rather alternated with approximately equal frequency between more than one of the methods described above. This group was deleted from subsequent analysis.

The students were then asked to report on whether they obtained specific patient consent to participate in the performance of various medical interventions. In the questionnaire these interventions were categorized according to whether they were judged to be invasive. As shown in Table 2, when given the opportunity to perform invasive procedures (lumbar puncture, bone marrow aspiration, paracentesis), the students reported a widespread reluctance to obtain patient consent for their performance of specific invasive procedures. Of the students who responded, only 13.1 percent always or

usually obtained specific permission from patients, whereas 63.5 percent seldom or never obtained specific permission. Examination of these results revealed significant differences between the groups. For example, group A was twice as likely as group B to obtain permission, and group B was about 11 times more likely to obtain permission than was group C. It is worth noting here that several students noted various reasons for not obtaining patient permission. The most commonly stated reason was that the students perceived themselves as part of the health care team rather than individual providers and did not feel that clarification of their role was necessary. Other reasons included fear of possible rejection by the patient and concern about house-staff evaluation of their clerkship performance.

Students were then asked whether they agreed that hospitals should specifically inform patients at the time of their admissions of the involvement of medical students in their care. Table 3 shows that a majority of the students agreed with this statement, though the differences between the responses of group A and group C students are significant. Conversely, when asked whether they agreed that it is the students' responsibility to inform pa-

TABLE 2
Percentages of Third-Year Students, Categorized by the Ways in Which They Introduced Themselves to Patients, Who Obtained Specific Permission from Patients to Participate in Invasive Procedures During Their Internal Medicine Clerkships, 1985*

Frequency	Groups†			
	Group A (n = 76)	Group B (n = 840)	Group C (n = 87)	Total (n = 1,003)
Always/Usually	26.3	13.1	1.2	13.1
Intermediate	27.6	24.2	12.6	23.4
Seldom/Never	46.1	62.7	86.2	63.5

* Based on responses of 1,596 students from a random national sample of 2,411 students attending 120 allopathic U.S. medical schools; the percentages are based on the total number who answered the question.

† Group A students introduced themselves as medical students and explained that they were not yet physicians; Group B students introduced themselves as medical students but did not elaborate; and Group C students introduced themselves as "doctor" and did not explain that they were students. Differences between the groups were significant at $p < .001$; group A students were more likely to obtain consent than the other groups.

tients of their role, only 60 percent of the respondents agreed with wide and significant differences apparent between student groups A and C. These differences between groups persisted in student responses to the issue of hospitals obtaining consent from patients for student participation in various elements of care involving different aspects of invasiveness. Although most of the students did not agree with the hospital-consent statements, the group A students were much more likely to agree, particularly when dealing with the issue of consent for complex invasive procedures.

Table 3 shows rather homogenous opinions among the three groups of students regarding the rights of patients admitted to teaching hospitals. These opinions indicate that with few exceptions the students felt that patients should not have the right to reject student participation in their care in general but should be allowed to refuse student participation in some unspecified aspects of the care rendered. Once again, the group A students were more likely to be in agreement with these statements than group C students.

In order to identify factors associated with levels of student forthrightness (student groups A, B, C), selected response items were treated as independent variables and subjected first to bivariate and then to stepwise linear regression analysis. The selected response items were: demographic characteristics, reported behavior of the house staff, exposure to specific instructions from both medical schools and the departments of internal medicine, and anticipated medical career specialty. The multiple stepwise linear regression analysis used a general linear-models procedure to detect the independent contribution of each of the above factors to student behavior (groups A, B, C). For each factor, categorical levels were assigned on a scale of 0 to 6 in such a way that the association of each factor with student forthrightness was linear. Missing information was assigned the midpoint score. Table 4 displays the crude (bivariate) and the multivariate results for selected independent variables.

Contrasting group A and group C reveals that members of the former had a greater likelihood of being female, of hav-

TABLE 3
Percentage of Third-Year Medical Students in Internal Medicine Clerkships,
Categorized by the Ways in Which They Introduced Themselves to Patients,
Who Always or Usually Agreed with Statements Concerning Informed Consent,
1985*

Statements	Groupst			p value for difference between groups A and C
	Groups A (n = 86)	Group B (n = 971)	Group C (n = 97)	
Hospitals should inform patients of student role.	94.2	85.9	74.2	< .001
Students should inform patients of their role.	87.2	63.3	6.2	< .001
Hospitals should obtain consent for student involvement in:				
general care	58.1	54.6	37.1	< .01
pelvic examination	50.0	30.9	11.3	< .001
simple invasive procedures	33.7	17.3	5.2	< .001
complex invasive procedures	68.6	44.0	25.8	< .001
sensitive discussions.	43.0	27.0	15.5	< .001
All patients are "teaching pa- tients."	25.6	31.9	32.0	N.S.
Patients have the right to reject student participation in:				
some aspects of care	90.7	79.2	74.2	< .01
all aspects of care.	57.0	45.2	40.2	< .02
Some seriously ill patients should not be used as teach- ing patients.	52.3	46.5	38.1	N.S.

* Based on responses of 1,596 students from a random national sample of 2,411 students attending 120 allopathic U.S. medical schools.

† Group A students introduced themselves as medical students and explained that they were not yet physicians; Group B students introduced themselves as medical students but did not elaborate; and Group C students introduced themselves as "doctor" and did not explain that they were students.

ing served their initial clinical internal medicine clerkship in a nonpublic hospital, and in having cared primarily for private patients. Conversely, group C students were more likely to have been male and to have been caring for nonprivate patients in public hospitals. With regard to the effect of institutional policy and the influence of role-model behavior, the above data suggest that group A students tended to have been introduced by the house staff to patients as students and tended to have come from a school where it is the policy of the internal medicine department chairperson that students introduce themselves as such. To a similar

degree, group C students tended to have been introduced by the house staff as "doctor" or "Dr. . . ." or to have come from a school where the stated policy of the internal medicine department chairperson was that students introduce themselves to patients as "doctor." The regression analysis confirmed the independent contribution of these variables but failed to confirm the independent contribution of hospital setting, patient characteristics, and student gender.

The study further contrasted group A and group C regarding differences in anticipated specialty choice. Group A students were more likely to anticipate a

TABLE 4

Numbers and Percentages of Students with Each Characteristic and Statistical Comparisons Between Groups for Third-Year Students, Categorized by the Ways in Which They Introduced Themselves to Patients, During Internal Medicine Clerkships, 1985*

Student Characteristics	Student Groups†			p value for comparison of groups A and C	
	Group A (n = 86)	Group B (n = 971)	Group C (n = 97)	Univariate Analysis	Multivariate Analysis
Being female	39.5	33.6	13.4	< .001	N.S.
In public hospital setting	13.9	16.7	25.8	< .03	N.S.
Usually saw nonprivate patient	36.0	42.3	53.6	< .01	N.S.
Usually introduced by house staff members					
As student	64.0	56.3	10.3	‡	
As "doctor"	17.4	16.2	66.0	< .001	< .001
In other way	18.6	27.5	23.7	< .01	
Received formal instruction from medical school on way to introduce themselves	60.5	46.7	38.1	< .001	N.S.
With medical school policy that student be introduced					
As student	88.9	87.5	80.3	‡	
As "doctor"	1.4	2.5	3.7	N.S.	N.S.
No policy	9.7	10.0	16.1	N.S.	
With policy from internal medicine chairperson that student be introduced					
As student	88.1	83.3	70.1	‡	
As "doctor"	1.2	1.0	12.4	< .002	< .0001
No policy	8.3	7.1	9.3	N.S.	

* Based on responses of 1,596 students from a random national sample of 2,411 students attending 120 allopathic U.S. medical schools.

† Group A students introduced themselves as medical students and explained that they were not yet physicians; Group B students introduced themselves as medical students but did not elaborate; and Group C students introduced themselves as "doctor" and did not explain that they were students.

‡ Reference group for the analysis of the correlates.

career in family practice. Conversely, group C students are more likely to anticipate a career in surgery.

Discussion

As indicated at the beginning of this paper, medical students in clinical training are essentially unlicensed lay persons. Kapp (7) provided a useful analysis of the legal dimensions of involving students in patient care. He cautioned that "misleading patients about the educational status of their health care providers is fraught with potential pitfalls" for both students and faculty members. However, Kapp also noted that no one has been "sued

successfully for failure to disclose training status to a patient," although he regarded such lawsuits as "a distinct possibility for the future." Thus, the legal implications of not informing patients about the involvement of students in their care remains for the most part at the theoretical level. When the law does not provide clear guidance, based on precedent, ethical considerations become paramount.

The ethical significance of the study findings raises important questions about the roles and responsibilities of both students and faculty members.

1. The role and responsibility of students. The data of the study suggest that

medical students do not always act in a manner consistent with a fundamental ethical requirement of informed consent—that information relevant to patients' decisions about medical care will be disclosed to them. Surely, the level of training and experience of student members of the health care team clearly are relevant items of information for the patients.

There are at least two plausible explanations for the lack of disclosure by the surveyed students. First, those students may have assumed that others—for instance, the teaching hospital, the attending physician, or the resident—had satisfied the disclosure requirement. This phenomenon, termed "floating responsibility" by Lidz and colleagues (8), amounts to no informed consent at all. The present authors' previously published data (3) corroborate Lidz's conclusions and suggest that any assumptions medical students may make that others, as a matter of policy or practice, have obtained consent for students' involvement in patient care are not valid. In addition, students may fail to recognize that they may have an ethical obligation to obtain consent for their involvement in patient care. In fact, over one-third of group B students and the vast majority of group C students held attitudes inconsistent with the view that students themselves bear the ethical responsibility to obtain informed consent for their involvement with patients.

Is it reasonable to expect medical students to bear such an ethical responsibility? The authors believe that it is. Informed consent is always required when there is a risk of harm to the patient. The involvement of students in patient care can cause such harm. A student's intervention, such as pushing a needle during a lumbar puncture, directly places the patient at a higher level of risk for pain and injury than the patient would en-

counter at the hands of a skilled practitioner. To hold that the health care provider who directly places the patient at risk has no ethical responsibility for obtaining informed consent for doing so distorts, if not ignores, the nature of informed consent and the patient-provider relationship as well. Even if there were no risk of harm when students are involved in patient care, the patient has the ethical right to know who is involved in providing that care. Such rights obtain and must be respected quite independently of whether there is a risk of harm. As Faden and Beauchamp (9) point out, one of the purposes of informed consent is to protect the patient's rights of decision-making. The responsibility to protect that right properly rests with the students.

Some might object that obtaining informed consent from patients for the involvement of students in their care would disrupt or even remove the educational opportunities for students, because too many patients would refuse. However, there is simply no empirical evidence reported in the literature to support this claim. In fact, obtaining consent by the student might enhance the educational process, because there are significant benefits to be gained by any student who recognizes the obligation to obtain informed consent. Students need to learn and master the clinical and communication skills that are required to obtain informed consent from patients. Indeed, these clinical skills are essential to the ethical practice of medicine and form the foundation upon which trusting physician-patient relationships are built. Attitudes and behaviors inconsistent with these clinical skills may well be carried over into residency and into eventual practice. Such a result should be unacceptable to medical educators.

2. The role and responsibility of faculty members. The data reported in this paper

indicate a solid empirical foundation for discussing the ethical responsibilities of medical educators, especially departmental chairpersons, who serve as role models for their attending physicians and residents, who are in turn the role models more visible to students. The data suggest that students' role models have a significant impact, for better and for worse, on student behavior.

Lidz and Meisel (10) provided persuasive evidence that the requirements of informed consent are frequently honored in the breach. A policy of introducing the student as "doctor" or the lack of an explicit policy sends the message to students that failing to abide by the requirements of informed consent is an acceptable attitude and behavior. The data in the present study suggest that such role models are in fact presented to medical students. The behaviors and attitudes that are fostered by such role models and that the authors have found among students exposed to such role models are directly at odds with the ethics of informed consent.

Conclusions

The authors urge that students be provided with better role models, whose behavior is supported by policies that require disclosure to patients of the student status of their caregivers, preferably by the students themselves. The first step toward accomplishing this goal is for faculty members to examine their attitudes regarding informed consent. If their attitudes are inconsistent with the ethics of informed consent, their students are not well-served. The second step is for faculty to teach students the intellectual and clinical skills necessary for obtaining informed consent. Recently, a distinguished group of medical educators (11) made a

number of recommendations on curricular goals in medical ethics, including informed consent. They urged that students should "know and understand the elements of valid consent, "that is, adequate disclosure of information by the student, understanding of that information by the patient, and a voluntary decision by the patient. The student should "know what constitutes adequate information and be able to convey it in language a patient can understand" and "be able to distinguish between persuasion and coercion."

The intellectual skills needed by students to obtain effectively informed consent for their involvement in their patients' care can be taught in the classroom, perhaps in a class on medical ethics. The clinical skills can be taught directly, for instance, in practice sessions with mock patients, and by the role models provided by the attending physician and resident in obtaining consent for diagnostic and therapeutic interventions as a routine and fundamental part of patient care.

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